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THE USE OF REHABILITATIVE EXERCISES IN THE TREATMENT OF TORN SHOULDER JOINT MUSCLE INJURIES IN ADULTS OF AGE FOR THE CATEGORY OF MEN FROM 40-50 YEARS

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Abstract

The purpose of this study was to find out more about the rehabilitative and therapeutic exercises, which are considered one of the natural and basic means from a therapeutic point of view for the patient. And represented in the injuries that the elderly are exposed to as a result of advancing age and weak bones that affect the strength of the daily loads of the old person, as the researcher touched on the research problem, where the research problem lies in the lack of exercises on the subject of injury, as well as the presence of means and devices for athletes and the lack of attention to people with Non-athletes for the injured in general and those with a rupture of the shoulder joint for the elderly, for the category of men in particular, as well as the spread of pharmacological treatment without scientific bases and not consulting a specialist doctor. The research used the experimental method for its suitability to the nature of the research problem and its objectives, and the research vocabulary was applied to the research sample, which numbered (8) men for ages for 40 to 50 years. Therapeutic treatment In the rehabilitation of shoulder joint injury in the elderly for the category of men. Among the most important recommendations reached by the researcher in the use of these rehabilitation exercises in the treatment of shoulder joint injuries, as well as in enhancing the experience of using the method of rehabilitation exercises among therapists in rehabilitation centers within a contract and referring to the development courses that help in the accurate and optimal selection in rehabilitation programs and benefit from them In a way that serves the patient, and the extent of its reflection on his performance in carrying out his daily work while avoiding injury.

Keywords: Shoulder Joint, Tendons, Ligament, Injury Rehabilitation.

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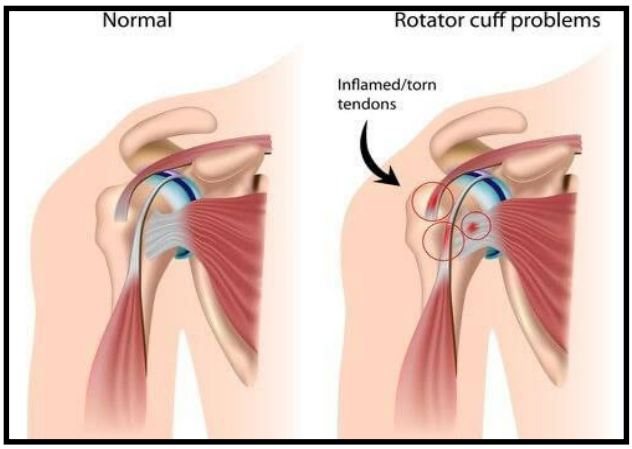
Introduction

Rehabilitative and therapeutic exercises are one of the basic means in the field of comprehensive treatment of various injuries without surgical intervention, as they are important to the elderly, when diseases of the age appear on them such as Diabetes and high blood pressure. Also, rehabilitation programs have a special importance in the field of modern rehabilitation, especially in its stages age progresses when the therapist gradually performs rehabilitation exercises in preparation for resuming his daily activities normally for the patient and his return after restoring his physiological and motor functions to their normal state. Where the process of treatment with rehabilitative exercises, accompanied by therapeutic means, depends on various exercises of various kinds. In addition, according to another research that it is one of the most important and most effective means in treating injuries of various degrees and type of injury. Getting rid of blood accumulations and accumulations that occur in the muscles surrounding the joint, it also helps to stop the bleeding and works to quickly restore the muscles and the affected joint and restore its functions gradually and in the least possible time. When the patient undergoes exercises, it will gradually reduce the appearance of pain and recover from the injury. It will also help provide more support that relieves the stress on the joint and the surrounding muscles [1] .

In addition, the investigators discovered that the interest of scholars and scientists in treating various injuries to non-athletes by using various means, including rehabilitation and therapeutic exercises with the latest methods. In the treatment of an important task in correcting and correcting what is possible through the use of rehabilitation exercises, these exercises are one of the preventive and curative means to correct this type of injury without surgical intervention, as “such exercises are rehabilitation that have an effective role in repairing dysfunction from favorable conditions , meaning that the defect did not move to the advanced formative stage .[2][3]see(Fig.1).

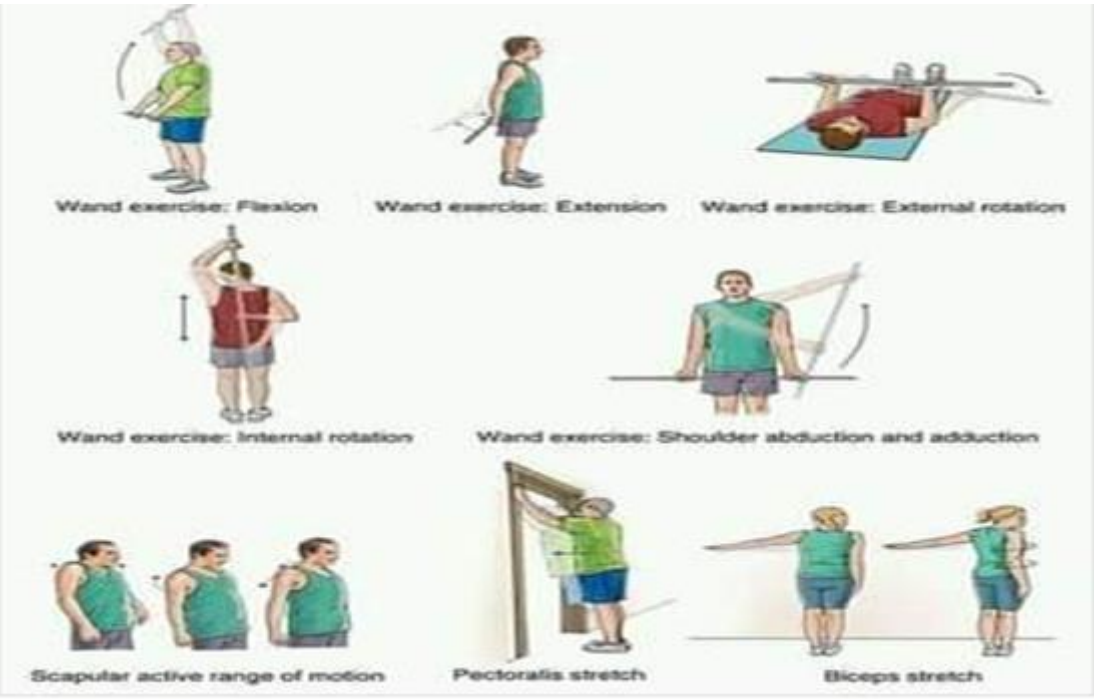


(Figure1 Injuries Tendons and Ligaments Surrounding the Joint)

Therapeutic exercises also defined them as "certain sports movements for different pathological conditions whose therapeutic and rehabilitative purpose is to restore the body to its natural state." [4], and there is another definition of therapeutic exercises, “they are movements based on anatomy and physiology that are employed in order to return the body to its normal state or close to the body’s normal work” [4] see(Fig.2)

(Figure2 Muscles of Normal Joint)

Among these injuries are injuries to the shoulder joint, which is one of the most important joints due to its multiple axes of movement and in different directions within wide ranges, and this is what makes it at the same time more susceptible to injuries in a different way and at a high rate, compared to other joints of the body, when performing difficult and complex movements to perform daily activities In life, it puts great pressure on the muscles, tendons and ligaments surrounding the joint. The individual also uses his hand daily to carry out his work in a routine manner, including large and small loads associated with different movements, so it requires performing certain movements that fit the nature of the movement in order to achieve the mechanical aspect required (Fig.3)to perform it in a manner appropriate to the type of movement.[5]



(Figure 3 Shoulder Rehabilitation Excercises)

The significance of this study can be found in its application of some exercises and rehabilitative and therapeutic methods in the rehabilitation of the injured to the rupture of the shoulder joint due to advancing age, which have an impact on the weakness of the bones and joints of the human body in the performance of daily loads. In terms of the research problem,, the researcher noticed the lack of reliance on modern rehabilitation

exercises by therapists for people with ruptures in the shoulder joint and its impact on the ligaments, tendons and muscles surrounding the joint, and specialist doctors resort to medicines without scientific bases, ignoring the age of the patient and the effect of drug medication on the patient's health Negatively, the researcher used a rehabilitation program through the use of rehabilitation exercises that gradually help to return to the practice of daily life significantly, as the shoulder joint is considered one of the sixth axis of movement in terms of its importance and the ligaments, tendons and muscles that move the arm in terms of adduction and abduction.[1][6][7]It reduces and rotates the muscle fibers sideways by pulling the humerus towards the spine of the shoulder, and thus extending and lateral rotation. All these movements can be performed by the shoulder joint according to its kinetic importance in the upper part of the human body [8].

2. The Aim of The Study:

It is to prepare rehabilitative exercises that help treat shoulder joint injuries for adults age from 40-50 years with the use of modern treatment methods to avoid the use of surgical intervention, and to identify the effect of these exercises used in the rehabilitation of shoulder joint injuries in adults age for the ages mentioned above.

Method and tools the used to experimental method with for one group with a pre and post-test for its suitability to the nature of the problem, where the research community was chosen in a deliberate way, and they are a number of elderly people represented by the category of men (40-50) years who were exposed to a shoulder joint injury. And led to a rupture of the ligaments and muscles surrounding the joint. In order to collect information and reach correct scientific facts, the researcher used devices, tools and some scientific qualification methods that enable her to access information and data that can be used in the context of the research:

-Tape measure

- Height and weight measuring device

- Electronic calculator

- Stopwatch

- Modified dynamometer for measuring muscle strength

- Johnny meter for measuring joint range of motion

- Lightweight metal chain - iron grip

The front deltoid muscle strength test until the symptoms of pain appear: [9] The front female is measured from a sitting position for the injured. One of the patient's arms is fixed with a device (Johnny Meter) on the lateral side of the torso, and the other end on the medial side of the humerus, when the patient's thumb is directed upwards where we ask the patient to raise the arm forward high, but when we measure the angle of the horizontal dimensions outward Sitting position for the patient and the patient's arm is extended at an angle of (90) degrees, in front of the patient's body, as the (Junimeter) device is installed on the patient's arm along the humerus, where the first arm of the (Junimeter) device is fixed in front of the body and the second arm is moved with a movement The arm is dimensioned horizontally towards the horizon. The projected resistance (in kilograms) is measured when the patient has pain.[10]

The range of motion of the shoulder joint was measured in this study [11]: The angle is measured from the patient's sitting position, as one of the patient's arms is fixed with a device (Jun meter) on the lateral side of the trunk and the other end on the medial side of the humerus, so that The direction of the thumb is upward, the patient is asked to raise the arm forward high in relation to the choice of forward flexion, but when measuring the angle of the horizontal dimensions outward for the patient so that the patient's arm is extended at

an angle (90) in front of the body, where the arms of the (Jun meter) device are installed along The humerus bone, where we install the first arm of the (Joni Meter) device in front of the patient's body and the second arm will be moved with the movement of the arm in its dimensions towards the back horizontally. On Sunday, September 23, 2020, the researcher's tests were used, as evidenced by tribe testing.

3. Rehabilitation Program:

What is required here in general and main is to prepare a rehabilitation and therapeutic program in order to help improve the structure of the muscle and its activity and improve its strength, and it is important to strengthen the working muscles, taking into account a re-development of the motor flexibility and completely for the joint by urging the treatment of ligaments, tendons and muscles surrounding the joint In case of damage caused by an injury to the shoulder joint, so that the injury does not recur. The problem resulting from the injury of the patient can be overcome through rehabilitation exercises that help the patient to balance the muscles through daily movements that help the patient to activate the opposite muscle groups, which requires at least one exercise for each of these groups separately, by isolating these muscle groups In the movement that helps in re-calibrating the muscles surrounding the joint [12] ,rehabilitative exercises are of great importance in rehabilitating the injured person before returning to his normal daily activities as it was before the injury.[13]

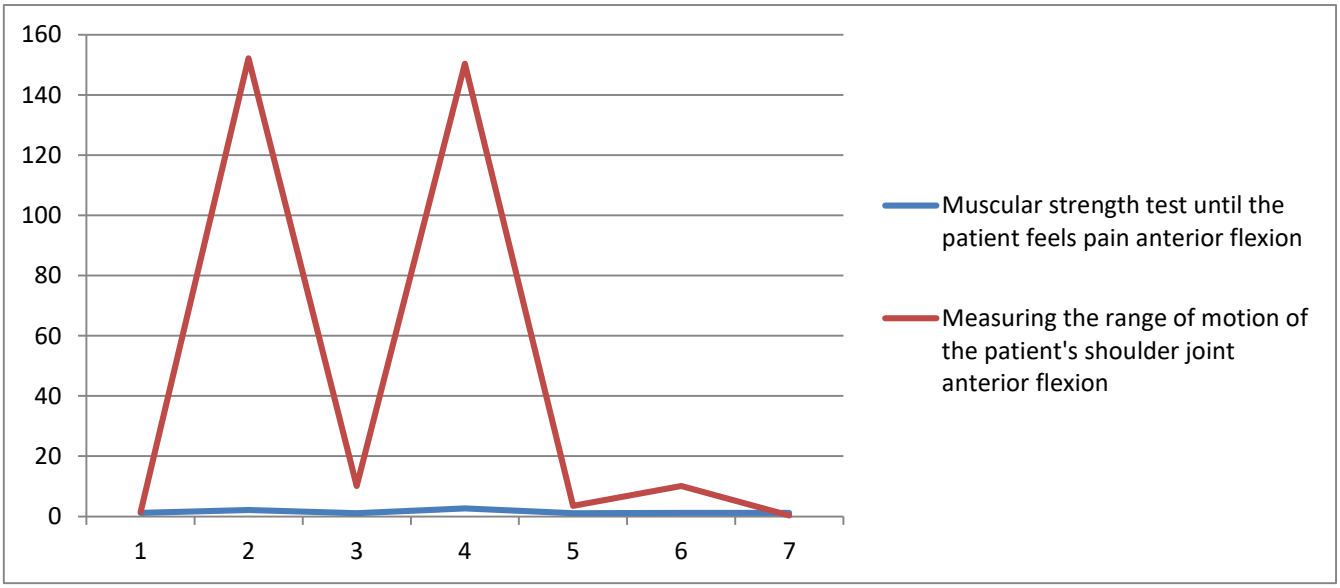
The therapist must also take the importance of gradual treatment in the use of rehabilitation exercises, taking into account the patient's chronological age and the diseases of the age such as diabetes [11][9]Diagnosis of the injury and its degree - - determining the type and nature of the exercises to be used - determining the intensity of performance and range of motion for the selected exercises - determined the expected duration of the curricula - - determining the number of sets and repetitions in each group with rest periods overlapping between the rehabilitation exercises - taking into consideration the comprehensive training of all parts of the body that does not harm the injured part as a shoulder joint. The patient with partial rupture of the muscles surrounding the shoulder joint was also rehabilitated using rehabilitation and therapeutic exercises with the use of rehabilitation methods, through modern rehabilitation exercises based on the latest scientific sources and references, taking into account the principle of gradation from lowest to highest in increasing the intensity of exercises on the patient, as The exercises that were used in the rehabilitation program include exercises without weight and exercises using body weight, as well as exercises using dumbbells, iron bar and some modern equipment. The program contained (30) rehabilitation units of three units per week and over a period of (8) weeks. The time of the rehabilitation unit ranged from (72-64) minutes, and the post-tests were conducted 5th of December, 2020 at nine o'clock in the morning, and in one of the physiotherapy centers in Baghdad, and the researcher was keen to create the same conditions in which the tests were conducted. tribal and dimensional in order to obtain accurate and correct results. For the purpose of data processing statistically, the researcher used the percentage and the statistical bag through the laws of the arithmetic mean and standard deviation, and a test for symmetrical samples t.

4. Results and Discussion:

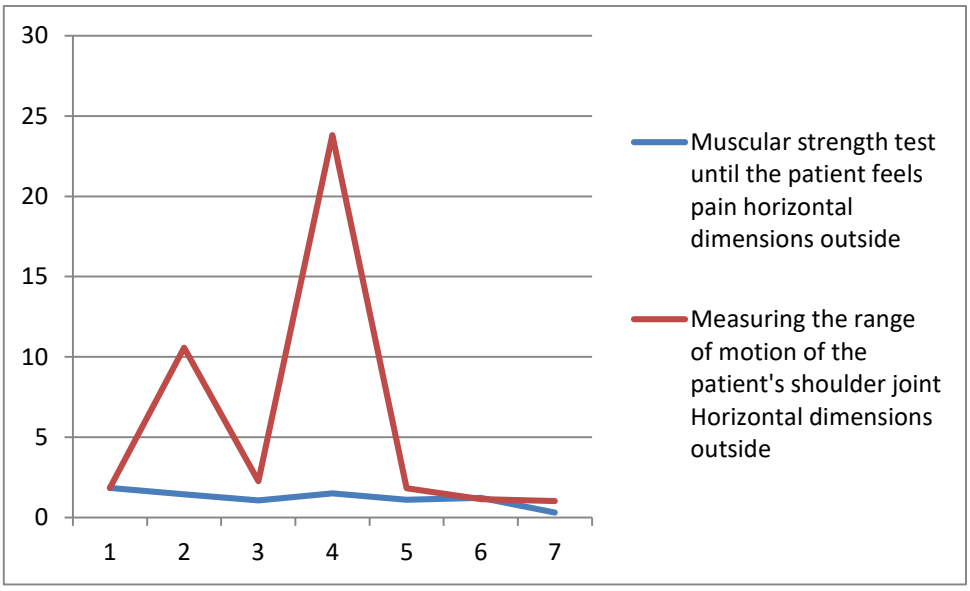
In Table1.The arithmetic mean, standard deviation ,the calculated value and the significance of the differences for the research sampling is illustrated.

Table 1 the Results the Pre and Post tests

the Exams		pretest		post test		F	F A	Sig	indication
		A ±	**S-**	**A ±**	**S-**				
Muscular strength test until the patient feels pain	**anterior flexion**	1.15282	2.1628	1.12227	2.6413	1.06135	1.16265	1.230	morale
	Horizontal dimensions outside	1.84263	1.4365	1.06291	1.5010	1.09426	1.2208	0.310	morale
Measuring the range of motion of the patient's shoulder joint	**anterior flexion**	1.52391	152.11	10.125	150.324	3.5523	10.156	0.320	morale
	Horizontal dimensions outside	1.83526	10.5752	2.2534	23.8125	1.8253	1.1529	1.021	morale



(Figure3 Muscular strength test until the patient feels pain, anterior flexion, Horizontal dimensions outside)



(Figure 4 Measuring the range of motion of the patient's shoulder joint, anterior flexion, Horizontal dimensions outside)

5. Conclusion

1-Through Table No. (1) it is clear that there are significant differences between the pre-test and the post-test, so that we find through the research sample a clear development in, where the researcher instructed because of the effect of exercises and therapeutic methods used for the patient by the therapist during use of the various exercises within the modern exercise units and the possibilities used of the available auxiliary tools. So that the significant differences that appeared were in favor of the post tests, which indicates the validity of the modern exercises that were used for the patient in a sequential and correct manner towards achieving the goal.

2- According to the findings, rehabilitative exercises have achieved the desired goal in the treatment of rehabilitating shoulder joint injuries, and the rehabilitative exercises have helped reduce the movement limitation of the shoulder joint, and worked to return the kinetic ranges of the joint early to the normal range.

3-The resistances used by the therapist for the patient helped in the development of performance well, which helped in the development of the patient's muscular strength in terms of the muscles surrounding the shoulder joint with flexibility in the muscles and ligaments surrounding the affected shoulder joint, which indicates that the correct rehabilitation approach used by the researcher, which It contains a set of resistance exercises that were effective, as Bahaa El-Din Salama supports, "Resistance exercises are part of any training or rehabilitation curriculum, to improve health and physical fitness, and attention is taken to them with increasing day by day patient safety, [14] where The researcher indicated that the use of modern standardized exercises may improve, develop and increase the activation of immune system cells and be a strong line of defense to prevent injuries to any person through his daily activities on a daily basis. When the complementary immune system is activated, the efficiency of this protein increases by destroying foreign bodies in addition to the modern rehabilitation exercises after the injury.

4- It looked that contemporary rehabilitation was the way to go exercises help in increasing the immune responses after performing the exercises, as the broken muscle tissues increase inside the bloodstream, thus increasing the effectiveness of removing them from the bloodstream.

White blood cells, often known as leukocytes, are cells that According to Cuzzolin, S. Lussignoli, F. Crivellente, A. Adami, F. Schena, P. Bellavite, G. Brocco, and Giuseppina Benoni, "frequent exercise leads to a decrease in adhesion between cells," [15], which can cross into broken tissues, particularly muscles. Tissues' effectiveness is greatly increased as a result of structural changes..

5-The use of resistance exercises within the correct scientific method had a significant impact in maintaining the range of motion of the patient's affected shoulder joint.

6- This research backs up the idea that modern rehabilitation is beneficial helps the patient to return as soon as possible to the normal daily activities as it was before the injury.

Recommendations

Through the conclusions, the researcher recommends the following:

1. The current research has shown that adhering to modern guidelines is beneficial rehabilitation exercises in a specialized and diverse manner within the means for rehabilitation of the shoulder joint, muscles and ligaments surrounding the joint with tendons.
2. It also indicates the confirmation of the result of this study for the treatment of shoulder joint injuries, which helps in strengthening the muscles surrounding the affected joint.
3. According to the study, any awareness of persons who have been hurt should be increased. also indicated that they undergo rehabilitation programs after the injury and not underestimate the injury, as it helps them return to their normal daily lives as they were before their injury, where exercises help maintain motor performance within the normal motor range required to perform any movement.

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Supplements

Annex (1) Some rehabilitation exercises used within the proposed rehabilitation curriculum for the injury of the shoulder joint and the muscles surrounding the joint

The goal of the rehabilitation unit: Rehabilitation of the working muscles surrounding the shoulder joint, strengthening it and restoring the range of motion of the affected shoulder joint for the patient.

T	Explanation of the exercise content	Number of repetitions for each exercise	The number of rest between repetitions	The numb er of total	Rest between groups
1	Use of an electrical stimulation device	Giving the patient (2) on each device and within the period of each exercise			
2	Use of an ultrasound machine	(2)	(1)Accurate	(2)	(1- 3) Accurate
3	Rotate the patient's arms from a standing position to the front	(2)	(1)Accurate	(2)	(1- 3) Accurate
4	Rotate the patient's arms from jogging forward and backward	(2)	(1)Accurate	(2)	(1- 3) Accurate
5	From the standing position of the patient, lean against the wall at an angle of (70) degrees, with the arms bent and extended	(2)	(1)Accurate	(2)	(1- 3) Accurate
6	From the sitting position of the patient, he extends	(2)	(1)Accurate	(2)	(1- 3) Accurate

	the arms from the front while holding weights weighing (1) kilogram				
7	From a standing position, the patient bends and extends the arms with the use of light weights	(2)	(1)Accurate	(2)	(1- 3) Accurate
8	From a sitting position, the patient extends the arms to the sides while moving both sides equally	(2)	(1)Accurate	(2)	(1- 3) Accurate